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ATTORNEY DOCKET NO. 21101.0046U2
PATENT

THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of)	
)	
Gesteland, et al.)	Art Unit: 1634
)	
Application No. 10/583,198)	Examiner: Unassigned
)	
Filing Date: 11/15/2004)	Confirmation No. 2204
)	
For: METHODS, ARTICLES, AND)	
COMPOSITIONS FOR IDENTIFYING)	
OLIGONUCLEOTIDES)	

INFORMATION DISCLOSURE STATEMENT

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

NEEDLE & ROSENBERG, P.C.
Customer Number 23859

Sir:

Pursuant to the requirements of 37 C.F.R. § 1.56, submitted herewith on the accompanying Information Disclosure Statement List is a listing of documents known to Applicants and/or their attorneys. In accordance with 37 C.F.R. §1.98(a)(2), copies of any cited U.S. patent or U.S. patent application publication documents are not enclosed. Copies of any cited foreign patent document and/or any non-patent publication are enclosed.

This Information Disclosure Statement is believed to be filed in a timely manner pursuant to 37 C.F.R. § 1.97(b)(3), in that a first Office Action on the merits of the present patent application has not yet been mailed to Applicants.

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In accordance with the provisions of M.P.E.P. § 2001.06(b) and 37 C.F.R. § 1.98(b)(3), Applicants would like to bring to the attention of the Examiner the existence of the co-pending patent applications identified below, which were filed in the United States Patent and Trademark Office:

	<u>Application No.</u>	<u>Date Filed</u>	<u>Inventors</u>	<u>Attorney Docket No.</u>
1.	*10/374,253	February 26, 2003	Matveeva et al.	21101.0059U2

The pending applications identified with an asterisk (*) above are stored in the Image File Wrapper (IFW) system of the USPTO. Accordingly, copies of the cited specifications, which includes the claims and drawings thereof, are not enclosed in accordance with the waiver to 37 CFR 1.98(a)(2)(iii) dated September 21, 2004.

For applications 10/374,253, the following prosecution documents are enclosed for the Examiner's consideration.

For Appl. *10/374,253		
<u>Date of Action</u>	<u>Type of Action</u>	<u>Date of Response</u>
09-02-2005	Restriction Requirement	
	Response to Restriction Requirement	10-05-2005
11-21-2005	Office Action	
	Response to Office Action	05-22-2006
08-11-2006	Office Action	
	Response to Office Action	12-11-2006


Consideration of the cited documents and making the same of record in the prosecution of the above-referenced application are respectfully requested.

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No fee is believed due; however, the Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 14-0629.

Respectfully submitted,

NEEDLE & ROSENBERG, P.C.


P. Brian Giles
Registration No. 57,896

NEEDLE & ROSENBERG, P.C.
Customer Number 23859
(678) 420-9300
(678) 420-9301 (fax)

CERTIFICATE OF MAILING UNDER 37 C.F.R. § 1.8

I hereby certify that this correspondence, including any items indicated as attached or included, is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date indicated below.


P. Brian Giles

1/3/07
Date



INFORMATION DISCLOSURE STATEMENT LIST

(Use as many sheets as necessary)

Complete if Known

Application Number	10/583,198
Filing Date	11/15/2004
First Named Inventor	Gesteland
Group Art Unit	1634
Examiner Name	Unassigned

U.S. PATENT DOCUMENTS

Examiner's Initials	Cite No.	Document No.	Date	Name	Class	Subclass	Filing Date (if appropriate)
	A1	5,399,491	03-02-1995	Kacian			
	A2	6,251,588	06-26-2001	Shannon			
	A3	5,700,637	12-23-1997	Southern			
	A4	5,667,667	09-16-1997	Southern			
	A5	2003/0130802	07-10-2003	Mei			

FOREIGN PATENT DOCUMENTS

Examiner's Initials	Cite No.	Foreign Patent Document Country Code-Number-Kind Code	Date	Name	Translation Yes/No

NON-PATENT DOCUMENTS

Examiner's Initials	Cite No.	Non-Patent Citations (include Author, Title, Publisher, Relevant Pages, Date and Place of Publication)
	A6	Allawi, H.T. and SantaLucia, J., Jr (1997) Thermodynamics and NMR of internal G-T mismatches in DNA. Biochemistry, 36, 10581-10594.
	A7	Allawi, H.T. and SantaLucia, J., Jr (1998) Nearest neighbor thermodynamic parameters for internal G.A mismatches in DNA. Biochemistry, 37, 2170-2179.
	A8	Allawi, H.T. and SantaLucia, J., Jr (1998) Nearest-neighbor thermodynamics of internal A.C mismatches in DNA: sequence dependence and pH effects. Biochemistry, 37, 9435-9444.
	A9	Allawi, H.T. and SantaLucia, J., Jr (1998) Thermodynamics of internal C.T mismatches in DNA. Nucleic Acids Res., 26, 2694-2701.
	A10	Amann, R.I., Ludwig, W. and Schleifer, K.H. (1995) Phylogenetic identification and in situ detection of individual microbial cells without cultivation. Microbiol Rev, 59, 143-169.
	A11	Arnold, L.J., Jr., Hammond, P.W., Wiese, W.A. and Nelson, N.C. (1989) Assay formats involving acridinium-ester-labeled DNA probes Clin Chem, 35, 1588-1594.
	A12	Chew, C.B., Zheng, F., Byth, K., Van Asten, M., Workman, C. and Dwyer, D.E. (1999) Comparison of three commercial assays for the quantification of plasma HIV-1 RNA from individuals with low viral loads [letter] Aids, 13, 1977-1978.
	A13	Compton, J. (1991) Nucleic acid sequence-based amplification Nature, 350, 91-92.
	A14	Debyser, Z., Van Wijngaerden, E., Van Laethem, K., Beuselinck, K., Reynders, M., De Clercq, E., Desmyter, J. and Vandamme, A.M. (1998) Failure to quantify viral load with two of the three commercial methods in a pregnant woman harboring an HIV type 1 subtype G strain AIDS Res Hum Retroviruses, 14, 453-459.
	A15	DeLong, E.F., Wickham, G.S. and Pace, N.R. (1989) Phylogenetic stains: ribosomal RNA-based probes for the identification of single cells Science, 243, 1360-1363.

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A16	Ding,Y. and Lawrence,C.E. (2001) Statistical prediction of single-stranded regions in RNA secondary structure and application to predicting effective antisense target sites and beyond. Nucleic Acids Res., 29, 1034–1046.
A17	Dopazo, J., Rodriguez, A., Saiz, J.C. and Sobrino, F. (1993) Design of primers for PCR amplification of highly variable genomes Comput Appl Biosci, 9, 123-125.
A18	Gaschen, B., Kuiken, C., Korber, B. and Foley, B. (2001) Bioinformatics, 17, 415-418.
A19	Gibbs, A., Armstrong, J., Mackenzie, A.M. and Weiller, G.F. (1998) The GPRIME package: computer programs for identifying the best regions of aligned genes to target in nucleic acid hybridisation-based diagnostic tests, and their use with plant viruses J Virol Methods, 74, 67-76.
A20	Giddings,M.C., Matveeva,O.V., Atkins,J.F. and Gesteland,R.F. (2000) ODNBase—a web database for antisense oligonucleotide effectiveness studies. Oligodeoxynucleotides. Bioinformatics, 16, 843–844.
A21	Higgins, D.G. and Sharp, P.M. (1988) CLUSTAL: a package for performing multiple sequence alignment on a microcomputer. Gene, 73, 237-244.
A22	Jayaraman,A., Walton,S.P., Yarmush,M.L. and Roth,C.M. (2001) Rational selection and quantitative evaluation of antisense oligonucleotides. Biochim. Biophys. Acta, 1520, 105–114.
A23	Kel, A., Ptitsyn, A., Babenko, V., Meier-Ewert, S. and Lehrach, H. (1998) A genetic algorithm for designing gene family-specific oligonucleotide sets used for hybridization: the G protein-coupled receptor protein superfamily Bioinformatics, 14, 259-270.
A24	Lehmann,M.J., Patzel,V. and Sczakiel,G. (2000) Theoretical design of antisense genes with statistically increased efficacy. Nucleic Acids Res., 28, 2597–2604.
A25	Lucas, K., Busch, M., Mossinger, S. and Thompson, J.A. (1991) An improved microcomputer program for finding gene- or gene family- specific oligonucleotides suitable as primers for polymerase chain reactions or as probes Comput Appl Biosci, 7, 525-529.
A26	Luebke,K.J., Balog,R.P. and Garner,H.R. (2003) Prioritized selection of oligodeoxyribonucleotide probes for efficient hybridization to RNA transcripts. Nucleic Acids Res., 31, 750–758.
A27	Mathews,D.H., Burkard,M.E., Freier,S.M., Wyatt,J.R. and Turner,D.H. (1999) Predicting oligonucleotide affinity to nucleic acid targets. RNA, 5, 1458–1469.
A28	Matveeva,O.V., Shabalina,S.A., Nemtsov,V.A., Tsodikov,A.D., Gesteland,R.F. and Atkins,J.F. (2003) Thermodynamic calculations and statistical correlations for oligo-probes design. Nucleic Acids Res., 31, 4211–4217.
A29	Matveeva OV, Mathews DH, Tsodikov AD, Shabalina SA, Gesteland RF, Atkins JF, Freier SM. Thermodynamic criteria for high hit rate antisense oligonucleotide design. Nucleic Acids Res. 2003 Sep 1;31(17):4989-94
A30	Matveeva OV, Foley BT, Nemtsov VA, Gesteland RF, Matsufuji S, Atkins JF, Ogurtsov AY, Shabalina SA. Identification of regions in multiple sequence alignments thermodynamically suitable for targeting by consensus oligonucleotides: application to HIV genome. BMC Bioinformatics. 2004 Apr 29;5:44

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A31	Matveeva OV, Tsodikov AD, Giddings M, Freier SM, Wyatt JR, Spiridonov AN, Shabalina SA, Gesteland RF, Atkins JF. Identification of sequence motifs in oligonucleotides whose presence is correlated with antisense activity. Nucleic Acids Res. 2000 Aug 1;28(15):2862-5
A32	Petersheim and Turner. Biochemistry. 1983. 22:256-263.
A33	Patzel,V., Steidl,U., Kronenwett,R., Haas,R. and Sczakiel,G. (1999) A theoretical approach to select effective antisense oligodeoxyribonucleotides at high statistical probability. Nucleic Acids Res., 27, 4328-4334.
A34	Peyret,N., Seneviratne,P.A., Allawi,H.T. and SantaLucia,J.,Jr (1999) Nearest-neighbor thermodynamics and NMR of DNA sequences with internal A.A, C.C, G.G, and T.T mismatches. Biochemistry, 38, 3468-3477.
A35	Proutski, V. and Holmes, E.C. (1996) Primer Master: a new program for the design and analysis of PCR primers Comput Appl Biosci, 12, 253-255.
A36	SantaLucia,J.,Jr (1998) A unified view of polymer, dumbbell and oligonucleotide DNA nearest-neighbor thermodynamics. Proc. Natl Acad. Sci. USA, 95, 1460-1465.
A37	SantaLucia,J.,Jr, Allawi,H.T. and Seneviratne,P.A. (1996) Improved nearest-neighbor parameters for predicting DNA duplex stability. Biochemistry, 35, 3555-3562.
A38	Scherr,M., Rossi,J.J., Sczakiel,G. and Patzel,V. (2000) RNA accessibility prediction: a theoretical approach is consistent with experimental studies in cell extracts. Nucleic Acids Res., 28, 2455-2461.
A39	Sczakiel G. eoretical and experimental approaches to design effective antisense oligonucleotides. Front Biosci. 2000 Jan 1;5:D194-201.
A40	Sczakiel,G. and Tabler,M. (1997) Computer-aided calculation of the local folding potential of target RNA and its use for ribozyme design. Methods Mol. Biol., 74, 11-15.
A41	Sohail,M. and Southern,E.M. (2001) Using oligonucleotide scanning arrays to find effective antisense reagents. Methods Mol. Biol., 170, 181-199.
A42	Sohail,M., Akhtar,S. and Southern,E.M. (1999) The folding of large RNAs studied by hybridization to arrays of complementary oligonucleotides. RNA, 5, 646-655.
A43	Sohail,M., Hoegger,H., Klotzbucher,A., Guellec,R.L., Hunt,T. and Southern,E.M. (2001) Antisense oligonucleotides selected by hybridization to scanning arrays are effective reagents in vivo. Nucleic Acids Res., 29, 2041-2051.
A44	Southern,E., Mir,K. and Shchepinov,M. (1999) Molecular interactions on microarrays. Nature Genet., 21, 5-9.
A45	Southern,E.M. (2001) History and overview. Methods Mol. Biol., 170, 1-15.
A46	Southern,E.M., Case-Green,S.C., Elder,J.K., Johnson,M., Mir,K.U., Wang,L. and Williams,J.C. (1994) Arrays of complementary oligonucleotides for analyzing the hybridization behavior of nucleic acids. Nucleic Acids Res., 22, 1368-1373.

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A47	Sugimoto,N., Nakano,S., Katoh,M., Matsumura,A., Nakamuta,H., Ohmichi,T., Yoneyama,M. and Sasaki,M. (1995) Thermodynamic parameters to predict stability of RNA/DNA hybrid duplexes. Biochemistry, 34, 11211-11216.
A48	Urdea, M.S. (1994) Branched DNA signal amplification. Biotechnology (NY), 12, 926-928.
A49	Urdea, M.S., Wilber, J.C., Yeghiazarian, T., Todd, J.A., Kern, D.G., Fong, S.J., Besemer, D., Hoo, B., Sheridan, P.J., Kokka, R. et al. (1993) Direct and quantitative detection of HIV-1 RNA in human plasma with a branched DNA signal amplification assay Aids, 7 Suppl 2, S11-14.
A50	Walker, G.T., Fraiser, M.S., Schram, J.L., Little, M.C., Nadeau, J.G. and Malinowski, D.P. (1992) Strand displacement amplification--an isothermal, in vitro DNA amplification technique Nucleic Acids Res, 20, 1691-1696.
A51	Walker, G.T., Little, M.C., Nadeau, J.G. and Shank, D.D. (1992) Isothermal in vitro amplification of DNA by a restriction enzyme/DNA polymerase system Proc Natl Acad Sci U S A, 89, 392-396.
A52	Walton,S.P., Stephanopoulos,G.N., Yarmush,M.L. and Roth,C.M. (1999) Prediction of antisense oligonucleotide binding affinity to a structured RNA target. Biotechnol. Bioeng., 65, 1-9.
A53	Walton,S.P., Stephanopoulos,G.N., Yarmush,M.L. and Roth,C.M. (2002) Thermodynamic and kinetic characterization of antisense oligodeoxynucleotide binding to a structured mRNA. Biophys. J., 82, 366-377.
A54	Williams,J.C., Case-Green,S.C., Mir,K.U. and Southern,E.M. (1994) Studies of oligonucleotide interactions by hybridization to arrays: the influence of dangling ends on duplex yield. Nucleic Acids Res., 22, 1365-1367.
A55	Xia,T., SantaLucia,J.,Jr, Burkard,M.E., Kierzek,R., Schroeder,S.J., Jiao,X., Cox,C. and Turner,D.H. (1998) Thermodynamic parameters for an expanded nearest-neighbor model for formation of RNA duplexes with Watson-Crick base pairs. Biochemistry, 37, 14719-14735.

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Date Received / Atty. Para. Client / Matter Number & Application Serial No.	January 3, 2007 21101.00461U2 App. No. 10/583,198 DEH/PBG: atb	
Document(s) Filed	1. Information Disclosure Statement (2 Pages) 2. Information Disclosure List (3 Pages) 3. Copies of Fifty (50) Cited References 4. Copies of Three (3) Cited Office Actions for Application No. 10/374,253 along with corresponding Response to each Office Action 5. Certificate of Mailing Dated January 3, 2007	
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